

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated July 23, 2007 has been received and its contents carefully reviewed.

Claims 1, 2, 5-8, 15-18, 20 and 21 are rejected by the Examiner. With this response, claims 1, 2, 6, 7, 15-18, 20, and 21 are amended. No new matter has been added. Support for the amendment can be found in at least paragraph [0038] and FIG. 7A-7C of Applicant's specification as filed. Claims 1, 2, 5-8, 15-18, 20 and 21 remain pending in this application.

In the Office Action, claims 1, 2, 6-8, 15-18, 20, and 21 are rejected on the ground of non-statutory double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,788,280. Claims 1, 2, 6-8, and 16-18 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,320,562 to Ueno et al. (hereinafter "Ueno"). Claims 5, 15, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ueno. Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ueno in view of Johnson (WO 99/05567).

The rejection of claims 1, 2, 6-8, and 16-18 under 35 U.S.C. § 102(b) as being anticipated by Ueno is respectfully traversed and reconsideration is requested. Applicant submits that Ueno does not disclose either explicitly or inherently each and every element recited in these claims of the present application.

Independent claim 1 recites a method of driving a liquid crystal display having a combination of features including "receiving second source data for a second frame period subsequent to the first frame period; [and] generating modulated data according to a comparison result between the registered first source data and the second source data; supplying the modulated data to a liquid crystal cell of a liquid crystal panel during an initial portion of an output period; and applying data different from the modulated data to the liquid crystal cell of the liquid crystal panel at a later portion of the output period than the initial portion." Applicant submits that Ueno does not disclose at least the above quoted features of claim 1.

In rejecting claim 1, the Examiner identifies S510 as the first source data, the display data S401 as the second source data, and also identifies the compensation data 501 as the generated modulated data. See page 4 and 5 of the Office Action.

Ueno states the following concerning the arithmetic data S510, at column 16, lines 25-31 (emphasis added):

“First, arithmetic data S401 which is output from the orthogonal transformation circuit 4 is input to the line memory A 51, and maintained for one horizontal scanning period. Sequentially input arithmetic data S401 and arithmetic data S510 (from one horizontal scanning period before, which is held at the line memory A 51), are input to the LUT 52. Next, square value S520 of a compensation amount based on a previously-provided loss-and-gain table of RMS voltage levels is output to the adder 53.”

Applicant submits that Ueno does not disclose “receiving second source data for a second frame period subsequent to the first frame period; [and] generating modulated data according to a comparison result between the registered first source data and the second source data.” For example, the data S510 is “from one horizontal scanning period before” and not from a previous or subsequent frame period. Accordingly, Applicant submits that Ueno does not teach, suggest, or disclose at least ““receiving second source data for a second frame period subsequent to the first frame period; [and] generating modulated data according to a comparison result between the registered first source data and the second source data” as recited in claim 1, and that claim 1 is allowable over Ueno for at least this reason.

Further, Ueno states the following concerning the compensation data at column 13, lines 50-55:

“During a period when the compensation voltages are being applied to the column electrodes, all of the row drivers apply a voltage at the time when the row electrodes are not selected to the row electrodes. Specifically, all of the row drivers do not output a selection pulse during the period when compensation voltages are applied to the column electrodes.”

In other words during the time of application of the compensation voltage to the column electrodes, the selection pulses are not applied to transfer the compensation voltage to a liquid crystal cell. Accordingly, Applicant submits that Ueno does not disclose at least, “supplying the modulated data to a liquid crystal cell of a liquid crystal panel during an initial portion of an output period; and applying data different from the modulated data to the liquid crystal cell of the liquid crystal panel at a later portion of the output period than the initial portion,” at least because the compensation voltages of Ueno are not supplied to “a liquid crystal cell of a liquid crystal panel” during “a later portion of the output period than the initial portion” as recited in claim 1.

Accordingly, Applicant submits that Ueno does not anticipate claim 1 for at least this additional reason.”

Independent claim 7 recites an apparatus for driving a liquid crystal display having a combination of features including “a modulator that receives and registers first source data for a first frame period, receives second source data for a second frame period subsequent to the first frame period, and that generates modulated data according to a comparison result between the registered first source data and the second source data” and “a data provider alternately applying the modulated data and data different from the modulated data to a liquid crystal cell of the liquid crystal panel.” The Examiner rejects claim 7 using the same rationale given for claim 1. Applicant submits that Ueno does not disclose at least the quoted features recited in claim 7, for at least the reasons given for claim 1, and that accordingly Ueno does not anticipate claim 7.

Applicant notes that claims 2, 6, 8, 16, and 17 depend respectively from claims 1 and 7 and each includes, by reference, all of the elements of their respective base claims. Accordingly, Applicant submits that Ueno does not anticipate claims 2, 6, 8, 16, and 17 at least by way of the dependencies of the claims, and for the reasons given above for their respective base claims 1, and 7.

Independent claim 18 recites a liquid crystal display including a modulator and data adapter having a similar combination of features to those discussed above for claim 7. The Examiner rejects claim 18 using essentially the same rationale given for claim 7. Applicant submits Ueno does not disclose at least “a data provider alternately applying the modulated source data and the second source data to liquid crystal cells of the liquid crystal panel through the data lines during a frame period” as recited in claim 18 for the reasons given above for claim 7. Accordingly, Applicant respectfully submits that Ueno does not anticipate claim 18.

The rejection of claims 5, 15, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Ueno is respectfully traversed and reconsideration is requested.

Applicant notes that claims 5, 15, and 20 depend respectively from claims 1, 7, and 18 and that each includes by reference all of the limitations of the respective base claims.

As Applicant has discussed above, Ueno does not anticipate claims 5, 15, and 20. In rejecting claims 5, 15, and 20, the Examiner makes remarks intended to cure the deficiencies of Ueno with respect to features explicitly in claims 5, 15, and 20. Applicant submits that the

Examiner's remarks do not address or cure the deficiencies of Ueno with respect to claims 1, 7, and 18 as discussed above. Accordingly, Applicant submits that claims 5, 15, and 20 are each allowable over Ueno at least by way of their respective dependencies from claims 1, 7, and 18.

The rejection of claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Ueno in view of Johnson is respectfully traversed and reconsideration is requested.

Claim 21 recites a method of driving a liquid crystal display having a combination of features including for example, "applying a modulated data signal to liquid crystal cells of a liquid crystal panel within one frame period; and applying a data signal to the liquid crystal cells within the one frame period."

Applicant submits that Ueno does not disclose at least this feature of the claim at least because Ueno does not disclose, "applying a modulated data signal to liquid crystal cells of a liquid crystal panel."

The Examiner cites Johnson as teaching "the modulated data signal has a voltage level larger than that of the data signal," to allegedly cure the deficiencies in the teaching of Ueno. Applicant does not reach the Examiner's conclusions regarding the teachings of Johnson. Applicant submits that Johnson does not cure the deficiencies in Ueno identified above, and that Ueno and Johnson, analyzed singly or in combination do not teach the combined features of recited in claim 21. Accordingly, Applicant submits that claim 21 is allowable over Ueno and Johnson.

With respect to the double patenting rejection of claims 1, 2, 6-8, 15-18, and 21 on the grounds of non-statutory obviousness type double patenting over claims 1-9 of U.S. Patent No. 6,788,280, Applicant disagrees with the Examiner's assertions. Because the claims of the present application are not yet in their final form, Applicant believes that a Terminal Disclaimer would be premature at this time. After the remaining rejections have been resolved, Applicant will consider filing a Terminal Disclaimer in order to expedite prosecution of the instant application.


Applicant believes the above amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. *A duplicate copy of this sheet is enclosed.*

Respectfully submitted,

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